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## Use More Milk

Mary A. Dolve

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### Recommended Citation

Dolve, Mary A., "Use More Milk" (1925). *Cooperative Extension Circulars: 1917-1950*. Paper 228.  
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# Use More Milk

MARY A. DOLVE, Specialist in Food and Nutrition

**N**ATURE has provided milk for a growth food. It is so efficient that, with no other nourishment than milk, an infant will double or even treble its weight in nine months.

Childhood is the period of growth and development. The very best of building materials should be provided in order that strong, healthy bodies may result. Milk contains, in an ideal form, the elements necessary for growth and repair.

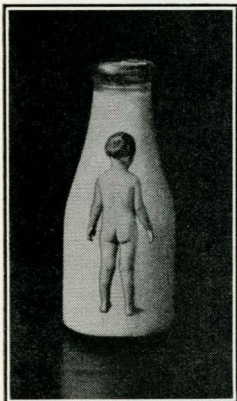


Fig. 1.—A quart a day for best development.

Milk is the best food we have because it gives:

**Proteins for tissue-building.**—The body building proteins of milk have a higher nutritive value than proteins found in any other foods. When milk is used with cereals, it increases the nutritive value of the cereal proteins. Milk protein is easily used by everyone and is especially good for children. They need a great deal of it because their bodies grow so fast.

**Minerals for bone, teeth, and other uses.**—Good teeth are dependent on certain minerals for their development. Milk contains more lime, the principal constituent of bones and teeth, than any other common food.

Very often, we see mothers with poor teeth because of the demand made by the infants for sufficient teeth and bone building material, lime. Plenty of milk in the mother's diet helps to insure good teeth for both mother and child. "A deficit in calcium—lime—is perhaps the most probable immediate error in the eating habits of the present day."

**Energy fuel for bodily functions, work and play.**—Children need fuel to keep them warm and to give them energy for play and work. The body needs fuel as the furnace needs coal and the automobile needs gasoline. Milk contains fuel in the form of butterfat and milk sugar. The fat of milk, being in an emulsified form, is more easily digested than other fats.

**Vitamins for health and growth.**—In addition to the protein, mineral salts, sugar, and fat found in milk, there are still more important sub-

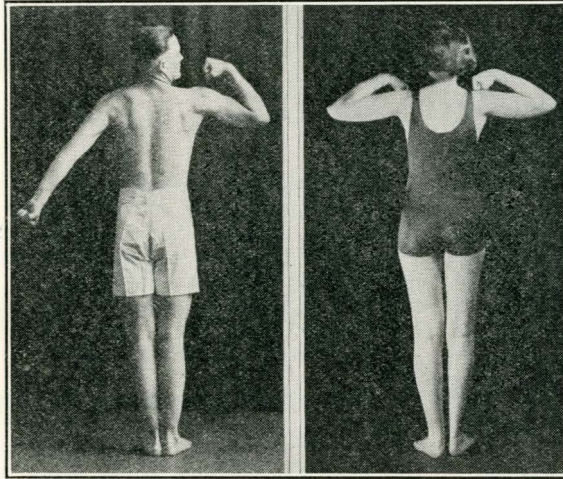
## Extension Service

South Dakota State College of Agriculture and Mechanic Arts  
Brookings, South Dakota

Published and distributed under Act of Congress, May 8, 1914, by the Agricultural Extension Service of the South Dakota State College of Agriculture and Mechanic Arts, Brookings. C. Larsen, director, U. S. Department of Agriculture cooperating.

stances, only recently discovered, which are not found in all foods. These substances are vitamins. Vitamins stimulate and promote growth and help to keep one physically fit.

Milk contains all the vitamins, A, B, C, and D. The fat of milk is especially rich in Vitamin A which has to do with growth. Since the value of Vitamin C seems to be easily destroyed, absolutely fresh, uncooked milk from pasture-fed cows, is the only milk that should be relied on to supply it. It is also furnished by such fruits and vegetables as oranges, tomatoes, lemons, and grapefruit.



Courtesy U. S. Dept. of Agr.  
**Fig. 2.—Milk helps make strong, shapely bodies.**

### **Milk is a Factor in Health**

Milk helps keep the digestive tract in proper condition. The putrefactive bacteria are kept in check by the lactic acid formed. It also gives proper balance to a diet and insures the greatest efficiency. Dr. C. V. McCollum of John Hopkins University said, at the conclusion of a demonstration at an institution for children in which he added milk to the regular institution diet, "all things considered, the results of this demonstration constituted, we believe, a most satisfactory demonstration of the validity of the view that a dietary selected from cereals, tubers, fleshy roots, and meat, does not prove satisfactory for the physical development of young children. It shows further that milk is as effective a supplementary food for such a type of diet as has been repeatedly shown to be the case with experimental animals."

Dr. H. C. Sherman concluded a discussion on an extended series of experiments to determine what quantity of milk per day, taken as part of a normal diet, would induce the best development of bones and teeth in the growing child by saying: "In view of such evidence, it seems a mistake to limit the recommendation of a quart of milk per day to the ages from infancy to puberty. Undoubtedly it would better be extended—

probably to all ages. Certainly, it seems to me, the boy should have his quart of milk per day until he is a man full grown and the girl should continue to take her quart of milk per day until, as a woman, she has weaned her last child."

It has been found that the efficiency and health of school children has improved when milk service has become a regular part of the school system. In rural schools this can best be done through the hot school lunch. School children find a milk lunch stimulating, refreshing and worth while. It is also true that the health and efficiency of workers in factories has been improved where milk service has been established.

Milk is recommended for elderly people because of its ease of digestion and completeness of assimilation. In fact, milk in some form should be an important part of the daily diet, whether the consumer is young or old, invalid, or adult in normal health.

Milk is an all-round food, used by the body to build bones, teeth and muscles, to furnish fuel for warmth and activities, to promote growth, and to safeguard health. It is a complete food and the body uses it thoroughly and easily.

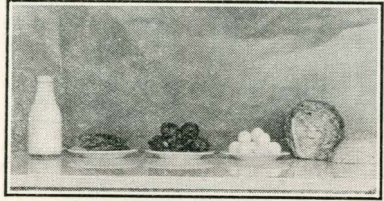


Fig. 3.—In fuel value, one quart of milk equals four-fifth lbs. beef, one and one-third lbs. potatoes, one and one-sixth lbs. eggs, four lbs. cabbage.

### Clean Milk is an Ideal Food

Unclean milk, caused by careless handling or because it comes from unhealthy cows, is a disease carrier.

In the production of clean milk, the control of tuberculosis is more important than the control of any other disease. It has been positively proven that human beings may contract the disease from cattle. Hospitals report that over fifty per cent of the tuberculosis found in children is the bovine type or, in other words, cattle tuberculosis, contracted by drinking raw milk from tubercular cows. Tuberculosis causes a greater loss to the livestock industry than any other disease. Millions of pounds of meat are condemned each year on account of this disease. This condemnation of meat indirectly adds to the cost of living.

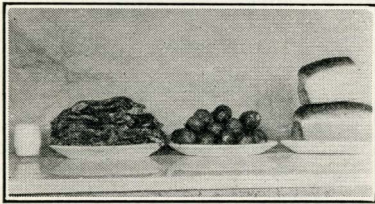


Fig. 4.—In lime content, one glass of milk (one-fourth qt.) equals seven lbs. beef, five and three-quarters lbs. potatoes, one and one-fourth lbs. bread.

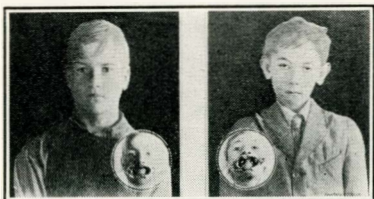
casual examination, until the very last stages of the disease.

No cure exists for tuberculosis in livestock and none should be attempted. The only method of controlling tuberculosis is to find and destroy the infected animal.

Symptoms of tuberculosis in cattle are too indefinite for a diagnosis to be made by a clinical or

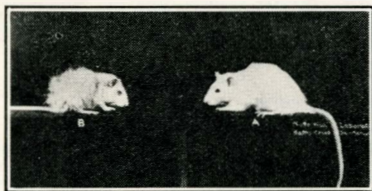


## Milk for Good Bone and Teeth



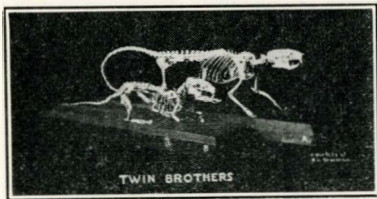
Courtesy of U. S. Dept. of Agr.

Fig. 5.—Balanced diet (left); poor diet (right).



Courtesy of U. S. Dept. of Agr.

Fig. 6.—Same diet except animal at right had milk. Note stunted body and wasted muscles (left); normal development (right).



Courtesy of U. S. Dept. of Agr.

Fig. 7.—Skeletons of animals in figure 6. Note poor bone development (left); good bone development (right).

The various official methods of controlling tuberculosis in South Dakota are through the local accredited veterinarian, by city milk ordinances, accredited herd system, or the county area plan. The local accredited veterinarian can test cattle and weed out the reactors. The city can pass an ordinance that compels all sellers of milk to have their cattle tested. Any owner of cattle may make application to the State Live Stock Sanitary Board, Pierre, S. D., to be put on the accredited herd list. Under this plan, the cattle are tested free of charge and indemnities are paid on the diseased cattle destroyed. When 60 of the cattle owners in any one county sign a petition requesting the county be put on the area plan, a tax is levied and all cattle in the county are tested. When only one half of one per cent of the cattle show tuberculosis, the county is put on the "modified accredited" list.

For detailed information on tuberculosis, apply to South Dakota State College, Brookings.

### References

- "More Milk—Better Health"—Extension Circular 172, State College, S. D.
- "Neufchatel Cheese"—Extension Circular 162.
- "Milk and Its Uses in the Home"—Farmer's Bulletin 1359.
- "Cooling Milk and Cream on the Farm"—Farmer's Bulletin 976.
- "The Indispensable Food for Children"—Bureau Publication 35,

# Milk for Every Occasion

United States Department of Labor, Children's Bureau.

"Production of Clean Milk"—Farmer's Bulletin 602.

"Cheese and Its Economical Use in the Diet"—Farmer's Bulletin 487

"Milk, the Best Food"—Bulletin 342, Experiment Station, University of Wisconsin, Madison.

"Clean Milk"—Circular 189, Extension Service, College of Agriculture, University of Wisconsin, Madison.

"Milk the Necessary Food for Growth and Health"—address of Dr. E. V. McCollum, published by National Dairy Council, 910 S. Michigan Avenue, Chicago, Illinois.

"Newer Knowledge of Nutrition"—Dr. E. V. McCollum, John Hopkins University.

"Feeding the Family"—Mary Swartz Rose.

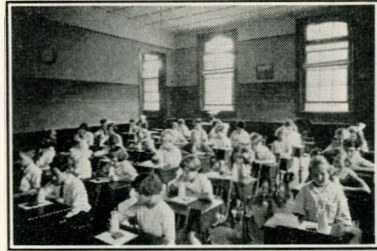
## Ways of Using Milk

Give your children milk. Use milk yourself. "No family has the right to purchase any meat until each member has at least a pint of milk daily."—Dr. E. V. McCollum.

In planning the meals first put in the required amount of milk, vegetables, and fruit and then round out meals with other foods.

## White Sauce

Everyone should master the art of making a good smooth white sauce as it forms the basis of so many preparations such as soups, creamed dishes, other sauces, etc.



Courtesy of U. S. Dept. of Agr.

Fig. 8.—The daily milk lunch.



Courtesy of U. S. Dept. of Agr.

Fig. 9.—A refreshing lunch in the field.



Courtesy of U. S. Dept. of Agr.

Fig. 10.—From grandfather to baby.

Table of Ingredients for White Sauce

Sauce	Liquid	Thickening	Other Ingredients	Directions
Thin white sauce	1 c. milk	1 tb. flour	1 tb. fat ¼ ts. salt dash pepper	Use double-boiler. Melt fat, add flour and seasoning. Add milk. Cook.
Medium white sauce	1 c. milk	2 tb. flour	2 tb. fat ¼ ts. salt dash pepper	Prepare like thin white sauce.
Thick white sauce	1 c. milk	4 tb. flour	3 tb. fat ¼ ts. salt dash pepper	Prepare like thin white sauce.

## GENERAL RECIPES

## Cream Soups

4 cups thin white sauce  
1½ to 2 cups vegetable pulp  
Seasoning to taste.

Cook vegetables until tender. Rub them through a sieve. Add pulp to white sauce. Add seasoning.

## Creamed Dishes

1 to 2 cups medium thick white sauce  
2 to 3 cups dried cooked vegetables, meat or fish.

Add the white sauce to the vegetables, fish, or meat. Season the mixture and bring to the boiling point. Keep it hot over hot water before serving.



Fig. 11.—On hand when the milk man arrives.

## Scalloped Dishes

1 cup medium thick white sauce  
2 cups cooked vegetables or fish

Arrange alternate layers of sauce and vegetables or fish in an oiled baking dish. Sprinkle the top with buttered crumbs, and brown in a moderate oven 20 to 30 minutes.

For milk drinks, custards, junket, and other milk dessert recipes see "More Milk—Better Health," Extension circular 172.

For making and ways of using cottage and neufchatel cheese, see "Neufchatel and Cottage Cheese," Extension circular 162.

## Cereals

Cereals cooked in milk in the double boiler can be made to take up six or eight times the ordinary quantity of milk used with cereals. This method of cooking the cereals not only improves the flavor but will increase the food value four fold.

**Chowders and Stews**

1. Corn chowder
  - 1 can corn
  - 4 cups sliced potatoes
  - 1 sliced onion
  - 2 ounces bacon
  - 4 cups scalded milk
  - 3 tb. butter
  - salt and pepper
2. Fish chowder
3. Clam chowder
4. Vegetable chowder
5. Crab stew
6. Oyster stew

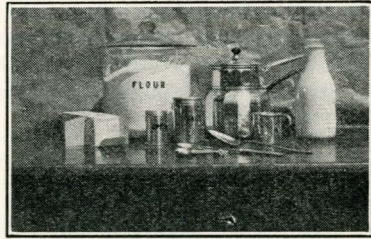


Fig. 13.—Ingredients and utensils for making white sauce.

Chop bacon and fry out, add onion and cook 5 minutes. Add potatoes and 2 cups boiling water, cook until potatoes are soft, add corn and milk and heat to boiling point. Add butter and seasoning.

**OTHER RECIPES****Rice With Cheese Sauce**

- 4 cups cooked rice
- 1½ cups cheese sauce

For serving, pour the sauce over the cooked rice.

**Variations:**

1. Potato balls, hominy grits, cornmeal, or other cereal may be substituted for the cooked rice. Crackers and toast may also be used.
2. Chopped green peppers, pimento, or paprika may be added to the cheese sauce.

**Potatoes in Milk**

Slice potatoes thin or small dice. Put in a frying pan, season with salt and pepper, add enough milk to completely cover. Cook slowly until potatoes are done and milk is absorbed. When brown on under side cut in sections, turn with pancake turner and brown on other side.

**Fruit Sponge**

- 2 tb. gelatin
- 1½ cups cold water
- 2 cups clabbered milk
- ½ cup sugar
- 1 ts. vanilla
- 1 cup crushed fruit
- 1 egg white

Soak gelatin in cold water. Dissolve it by setting the cup in a pan of boiling water. Mix gelatin thoroughly with the clabbered milk, add the sugar, and set the mixture in

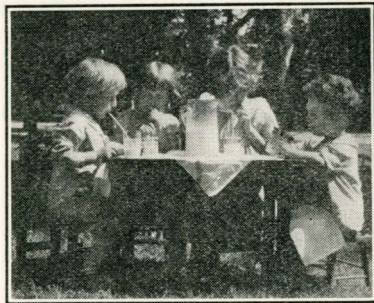


Fig. 12.—Refreshments when John and Mary come over to play.



a pan of ice water. When it begins to thicken around the edges, beat it well with a Dover egg beater, add the vanilla and the fruit, fold in the well-beaten white of egg, and turn the mixture at once into a mold. Serve the sponge with whipped cream or a soft custard.

Strawberries, rhubarb, pineapple, raspberries, or orange may be used for the fruit.

#### Milk Sherbet

juice 3 lemons	Mix sugar and lemon juice, stirring constantly while
1½ cups sugar	slowly adding the milk. Pour into the freezer, add the
1 quart milk	egg white, beaten until stiff, and freeze.
1 egg white	

#### Variations:

1. One cup grated pineapple added when partly frozen.
2. Crushed strawberries or other fruits may be added.

#### Sour Cream Salad Dressing

One cup sour cream, whipped until stiff. Add flavoring of lemon juice (pineapple may also be added) during the whipping. Season with salt, a dash of curry powder when it is to be served with vegetable salads. For some salads a little sugar makes an improvement.

NOTE.—Sour whipped cream can be substituted for sweet cream in any boiled salad dressing.

#### Whey Salad Dressing

1 cup whey	½ ts. salt	¼ cup sugar
¼ cup vinegar	⅛ ts. tumeric	Paprika
1 ts. mustard	3 tb. flour	2 tb. butter

Beat the whey and vinegar together. Mix all the dry ingredients, and add them to the whey. Add the butter, and cook the mixture until it is smooth and thick.

#### Lacto

2 quarts buttermilk  
2 lbs. sugar  
2 eggs  
1½ cups orange juice  
½ cup lemon juice

Dissolve the sugar in the buttermilk and add the eggs, the yolks and whites beaten separately. Stir and strain the mixture and add the fruit juices. Freeze in the usual way, and pack in ice and salt for an hour before serving.